

Exhibit 8



United States Department of the Interior

NATIONAL PARK SERVICE
Cuyahoga Valley National Park
15610 Vaughn Road
Brecksville, Ohio 44141-3097

IN REPLY REFER TO:

September 22, 2021

Memorandum

To: Chief, WASO Environmental Compliance and Cleanup Division

Through: Regional Director, Interior Regions 3, 4, 5 **HERBERT FROST** Digitally signed by HERBERT FROST
Date: 2021.09.27 14:36:23 -05'00'

Through: Superintendent, Cuyahoga Valley National Park **LISA PETIT** Digitally signed by LISA PETIT
Date: 2021.09.22 14:41:52 -04'00'

From: Federal Government Lead,
Jaite Paper Mill Site Contaminated Site Team **VERONICA DICKERSON** Digitally signed by VERONICA DICKERSON
Date: 2021.09.23 07:40:07 -04'00'

Subject: Non-Time-Critical Removal Action, Jaite Paper Mill Site, Cuyahoga Valley National Park

I. Purpose

This Action Memorandum recommends and, upon adoption of this recommendation, documents a decision by the National Park Service (NPS) to select a Non-Time-Critical Removal Action (NTCRA) to respond to the release or threat of release of hazardous substances at the Jaite Paper Mill Site in Cuyahoga Valley National Park (CUVA), Summit and Cuyahoga Counties, Ohio. This Action Memorandum is consistent with guidance developed by the United States Environmental Protection Agency (USEPA)¹ for the preparation of Action Memoranda selecting removal actions pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 *et seq.*, and CERCLA's regulations promulgated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300.

The selection of the removal action adopted by this Action Memorandum to address the area within CUVA impacted by the release or threat of release of hazardous substances at and from the Jaite Paper Mill (the "Site") is made pursuant to and in accordance with NPS response authorities under CERCLA. Specifically, NPS is authorized to remove or arrange for the removal of, provide for remedial action relating to, or take any other response action consistent with the

¹ "Superfund Removal Guidance for Preparing Action Memoranda" (Office of Emergency Management, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency [September 2009]).

NCP, to address the release or threatened release of hazardous substances on land under NPS jurisdiction, custody, or control whenever NPS determines that such response is necessary to protect the public health or public welfare or the environment.²

NPS has determined, pursuant to its CERCLA authorities, that threats to public health, public welfare, and the environment posed by the release or threatened release of hazardous substances at and from the Site warrant the selection of the removal action described in this Action Memorandum. This removal action was selected from among the alternatives evaluated in the Engineering Evaluation/Cost Analysis (EE/CA), conducted for the Site pursuant to Section 300.415(b)(4) of the NCP, 40 C.F.R. § 300.415(b)(4), for the reasons articulated in the EE/CA Report and summarized below.

II. Site Conditions and Background

Section II provides a description of the Site, the key findings of the EE/CA and other relevant investigations undertaken at the Site, the physical location and surrounding conditions present at the Site, the contaminants of concern (COCs) released into the environment at the Site, and the actions taken to date to address these COCs.

A. Site Description

The site comprises the former Jaite Paper Mill and operations area encompassing approximately 30 acres of parkland and other areas where hazardous substances from mill operations have come to be located. The Site is bounded to the north by Brandywine Creek and to the southwest by the Cuyahoga River, beyond which extend several acres of wooded parkland crossed by park roads and recreational paths (Figure 1). The Site is bounded on the east and southeast by the Brandywine Ski Resort, and on the south by wooded parkland. Two small lakes southeast of the Site and across the Towpath Trail, Brandywine Lake and an unnamed lake, are associated with the ski area and are not part of the Site (Figure 2).

The Site includes the former Jaite Paper Mill, of which only a concrete foundation remains, as well as former railroad spurs, a papermaking machine called a Fourdrinier Machine, three ponds, and surrounding waste disposal areas associated with the former paper mill operations. All above-ground structures were demolished in 2006. The former mill building area of approximately 7.1 acres, located immediately west of the Towpath Trail, is closed to the public and secured by a perimeter fence with locked gates. A similar perimeter fence encloses Pond 1 of three ponds east of the Towpath Trail, and a waste area on the western border of the Site adjacent

² CERCLA Section 104(a), 42 U.S.C. § 9604(a); Executive Order 12580.

to the Cuyahoga River called the “Dump site.” Access to other adjacent areas of the Park not impacted by the release of hazardous substances is unrestricted. An abandoned railroad track extends from a bridge across the Cuyahoga River onto the Site where it divides into five spurs that terminate in operational areas along the southern, eastern, and northern sides of the former mill building.

Waste and production wastewater from the Jaite Paper Mill were disposed on-Site, along with slag material, and numerous Underground Storage Tank (UST) fuel and cleaning solvent releases during the years of mill operations. Lands south and west of the former mill building and within the Site boundaries have been identified as waste disposal areas (EMG 1993b; TetraTech 2005). Production wastewater from papermaking is believed to have been discharged to the Cuyahoga River before 1967 (NPS 1979) and to Brandywine Creek (EMG 1993b), both of which abut approximately two-thirds of the Site property boundary. A series of ponds was constructed east of the former mill building across the Ohio & Erie Canal and Towpath Trail in the 1960s and 1970s to treat production wastewater (EMG 1993b). Wastes associated with individual physical units of the Site are described in Section 2.4 of the EE/CA.

1. Engineering Evaluation/Cost Analysis Investigation

NPS initiated the EE/CA to assess the nature and extent of hazardous substances released into the environment at the Site as a result of the operations conducted at the mill facility. Based on previous investigations, cleanup actions, and Site reconnaissance evaluations, the Site was divided into 15 distinct physical units of potentially distinct contamination releases based on previous operations at the mill facility, which are described fully in the EE/CA and shown on Figures 2 and 3 of the EE/CA. Based on previous investigations described in the EE/CA, these units have been contaminated by various levels and types of hazardous substances including metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), dioxin/furans, and volatile organic compounds (VOCs).

The physical units and hazardous substances associated with each unit are provided below. For additional details on operations, waste, and rationale for hazardous substances at each physical unit, refer to Section 2.4 of the EE/CA.

- Physical Unit 1: Former mill building - metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 2: The concrete transformer pad - PCBs
- Physical Unit 3: Septic system leach field north of the railroad tracks - metals, PAHs, PCBs, and VOCs

- Physical Unit 4: Aeration and settling ponds - wastewater disposal, metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 5: Building pond - metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 6: Former underground storage tank (UST) areas – PAHs and VOCs
- Physical Unit 7: The Dump site - metals, PAHs, PCBs, VOCs, and dioxin/furans
- Physical Unit 8: The Central Waste Pile 1 - metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 9: The Central Waste Pile 2 - metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 10: The southern waste pile - metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 11: The southeast waste pile (combined with southern waste pile)
- Physical Unit 12: Cuyahoga River and Brandywine Creek - metals, PAHs, PCBs, and dioxin/furans
- Physical Unit 13: Former oil and gas well - located east of the Site and was not part of the EE/CA investigation
- Physical Unit 14: Rail spurs - metals and PAHs
- Physical Unit 15: Fourdrinier Machine - lead, asbestos, and PAHs

2. *Physical Location*

Established by Congress on December 27, 1974, as Cuyahoga Valley National Recreational Area, the area within which the Site is located was renamed Cuyahoga Valley National Park on October 11, 2000. The purpose of CUVA is to preserve and protect for public use and enjoyment the historic, scenic, natural, and recreational values of the Cuyahoga River and its valley; to maintain recreational open space in connection with the urban environment; and to provide for the recreational and educational needs of the visiting public. (NPS 2013 Foundation Document).

The Cuyahoga River connects CUVA with the Great Lakes, the largest system of fresh water in the world. This “river that burned” in 1969 gave international attention to water quality issues and encouraged action through the passage of environmental legislation, especially the Clean Water Act. Understanding the watershed connections demonstrates the potentially far-reaching impacts of land preservation, community engagement, and individual daily decisions on environmental health.

CUVA also provides refuge for a rich natural diversity of plants and animals, including rare, threatened, and endangered species whose survival depends on Park protection. This unique

species composition is a result of the Park's location in a transition zone between major regions of the country, combined with its glacial history and varied topography.

It is within the 33,000-acre Park that the Jaite Paper Mill was originally constructed in 1905 and operated continually until 1984, by which time the size of the mill had grown to 180,000 square feet. The mill originally produced paper bags for flour and cement with pulp produced in-house from rags and wood (NPS, 1979). Pulp was later imported from outside sources. Other products produced through the years of mill operations included fertilizer bags, bread sacks, rope, high quality kraft paper, and corrugated boxes.

The Site is located approximately seven miles northeast of the intersection of Interstates 271 and 77, which provide access from the east or west. The Site can be accessed by a dirt road that parallels the Towpath Trail for 0.25 mile south of Highland Road on the eastern side of the Cuyahoga River. The Site is bounded to the north by Brandywine Creek and to the southwest by the Cuyahoga River, beyond which extend several acres of wooded parkland crossed by park roads and recreational paths.

3. Site Operations

The original mill building was ultimately expanded to 180,000 square feet (ft²) and included above and below grade areas for boilers, chemical storage tanks, maintenance shops, paper storage, and production machinery. Owners and operators of the mill included Jaite Paper Company, National Container Corporation, Owens Illinois, Inc., Tecumseh Corrugated Box Company, TCBC II, and JMJ Development. The United States acquired the closed mill and grounds on January 16, 1985, to make it part of CUVA (EMG 1993b). A fire in October 1992 severely damaged much of the southern portion of the mill building, which was thereafter deemed ineligible for the National Register of Historic Places (NRHP) (Foster Wheeler 2003). After several structural and safety assessments were conducted throughout the 1990s and early 2000s, above-grade structures were demolished between January and July 2006 (TetraTech 2006).

Based on previous investigations, waste and production wastewater were disposed on-Site along with slag material containing metal and PAHs, and numerous UST fuel and cleaning solvent releases during the years of mill operations. Lands south and west of the former mill building have been identified as waste disposal areas (EMG 1993b; TetraTech 2005). Production wastewater from papermaking are believed to have been discharged to the Cuyahoga River before 1967 (NPS 1979) and to Brandywine Creek (EMG 1993b), both abutting approximately two-thirds of the Site property boundary to the north, southwest, and west. A series of ponds was

constructed east of the former mill building across the Ohio & Erie Canal and Towpath Trail in the 1960s and 1970s to treat production wastewater (EMG 1993b). More specifically, areas where hazardous substances were disposed of include, but are not limited to, the following:

- A waste disposal area identified northwest of the former mill building, bounded to the north by the main railroad spur and the southwest by the Cuyahoga River known as the “Dump site” where exposed hazardous material eroded into the Cuyahoga River at the southern border of the Dump site;
- A series of three aeration and settling ponds used to dispose of production wastewater from mill operations for an unknown period of time (EMG 1993a; EMG 1993b), which regularly overflowed into adjacent wetland areas;
- Nine waste pile locations;
- Three leaking underground storage tank locations;
- A septic system leach field; and
- Numerous areas within the former mill building footprint where hazardous materials were spilled on the concrete slab and migrated through the slab to soil and groundwater beneath the slab.

4. *Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant*

Hazardous substances have been identified during numerous investigations performed at the Site since 1990. Some of these investigations focused on the former mill building and collected information related to releases and/or threatened releases of hazardous substances associated with the building. Other investigations focused on characterizing other specific areas of potential environmental concern across the Site including: the Concrete Transformer Pad (Physical Unit 2), Former Septic Tank and Leach Field (Physical Unit 3), Aeration and Settling Ponds (Physical Unit 4), the former mill building area (Physical Unit 1), former USTs (Physical Unit 6), and other waste piles and disposal areas (Figure 2-1). The 2005 Site Characterization Report by Tetra Tech compared analytical results for pesticides, herbicides, metals, Semi-Volatile Organic Compounds (SVOCs), VOCs, and PCBs in soil, sediment, groundwater, waste, and surface water samples to human health and ecological screening levels. Interim cleanup actions have included removal of USTs, demolition of the former building, removal of Asbestos-Containing Material (ACM) identified in the former building, removal of liquid contaminated with PCBs in a trench beneath the Fourdrinier Machine, partial removal of lead-based paint from the Fourdrinier Machine, and removal of containers used to store chemicals.

The EE/CA Site investigation collected samples at 300 locations from seven media: 1) three vertical zones of soils; 2) five different surface water bodies; 3) 35 groundwater wells; 4) 16 sediment locations; 5) seven waste piles, 6) concrete; and 7) one Fourdrinier Machine. From these samples, data were validated from 11 analytical groups of contaminants including metals, SVOCs, VOCs, PCBs, pesticides, dioxins/furans, asbestos, hardness, pH, Acid Volatile Sulfide (AVS)/Simultaneously Extracted metals (SEM), and Total Organic Carbon (TOC). Most of these analytical groups were sampled from the seven media groups that were divided into sample location areas known as Decision Units (DUs). The DUs were established based on criteria such as Site use history, estimated contaminant area variability, and contaminant transport patterns. The soil and sediment DU sample areas are shown on Figure 4. DUs were also established for the seven waste piles, the concrete foundation of the former paper mill operations, and surface water sample areas that matched sediment sampling DUs.

Sampling results show that the primary COCs are metals and SVOCs (primarily PAHs). The highest concentrations of these COCs are located in surface and subsurface soils, and in waste piles including black slag waste (sand to cobble sized clasts of black and red granular waste product). As shown in Figure 5, nearly all black slag waste was discovered in DUs located west of the Towpath in and surrounding the former paper mill building and operations area, including under the building foundation concrete slab. The highest concentrations of PAHs are associated with black slag waste. Figure 6 shows the relatively high concentration areas of PAHs, which are nearly identical to areas where black slag waste is located, with PAH concentrations generally highest where the thickest slag deposits are located. Elevated metals concentrations, shown in Figure 7, are distributed across the Site, including in all waste piles.

Typically, metals found at the highest concentrations are antimony, arsenic, barium, chromium, copper, lead, and mercury, with lead in the Dump site adjacent to the Cuyahoga River nearly 150 times higher than reference and background concentrations found off-Site. Accordingly, as summarized by the EE/CA Report in Section 2.10.1, the hazardous substances released at the Site that exceed removal goals (RGs) are antimony, arsenic, barium, chromium, copper, lead, mercury, selenium, zinc, and several PAHs.

Hazardous substances exceeding RGs were detected throughout the Site in surface and subsurface soil, surface water sediments, waste material, and the shallow silts and clays above the sand and gravel aquifer. Consequently, the most direct exposure pathway on the Site is human and ecological receptor contact with surface soils and surface waste material. Additionally, erosion of the Site's surface soil contamination into Brandywine Creek and the Cuyahoga River is the dominant contaminant transport process and a significant concern, given this Site's location in an active erosional valley along the Cuyahoga River. Sediment

concentrations and Cuyahoga River magnetometer detections of metal waste show erosion into the Creek and River is occurring at surface soils and Site waste piles with some of the highest concentrations of metals and SVOCs on the Site.

In summary, as a result of time, Site hydrogeology, and an active dominant river valley system, the primary contamination remaining on the Site are PAHs and metals sorbed into shallow surface soils and waste piles. These surface soils and waste piles represent long-term sources of contamination that can be expected to continue to migrate, if left unabated, and result in exposure to human and ecological receptors as surface soil and surface water erosion furnish the dominant mechanism for off-Site contaminant transport to the Cuyahoga River.

5. *NPL Status*

The Site is not listed or proposed for listing on the National Priorities List.

B. Other Actions to Date

To date, the following interim actions have been taken to mitigate the release and threatened release of contamination at the Site or characterize the nature and extent of Site contamination:

- Removal and disposal of six PCB capacitor banks;
- Removal and disposal of drums containing hazardous materials;
- Removal of UST's;
- Removal of retrofitted fuel oil-fired boilers;
- Removal of some ACM and lead-based paint;
- Demolition and removal of above-grade structures, leaving in place the concrete foundation slab and Fourdrinier Machine;
- Time-Critical Removal Action (TCRA) to mitigate releases from the "Dump site" into Cuyahoga River; and
- Engineering Evaluation/Cost Analysis (EE/CA) to document the need for and support the selection of a Non-Time-Critical Removal Action (NTCRA).

Phase I and II Environmental Site Assessments conducted in 1992-93 (EMG, 1993b) and 2002 (MVTI, 2002), respectively, and a Screening Investigation in 1993 (EMG, 1993a), found on-Site contaminants to include, PCBs, ACM, and petroleum, oil, and lubricant products. USTs were also found on Site.

A chain-link security fence with locked gates currently restricts access to the concrete foundation and the area to the west of the concrete foundation. Additional fencing was added to surround the Dump site waste area in 2017 following receipt of Site investigation results. In addition, a TCRA was undertaken in 2018 to install a protective rock retaining wall to mitigate migration of hazardous substances into the Cuyahoga River where the western boundary of the Dump site borders the River. Prior to the 2018 TCRA, waste material was eroding from the Dump site into the River and was visible in the Riverbed. NPS observed that approximately 15 feet of the Riverbank along the Dump site had eroded between 2017 and 2018 because of increased extreme weather conditions, such as precipitation and flooding, which exacerbated the migration of hazardous substances into the Cuyahoga River.

C. State and Local Authorities Role

NPS has CERCLA lead agency authorities at the Site and is responsible for investigating the nature and extent of contamination at the Site and selecting response action necessary to protect public health and welfare and the environment from hazardous substances released or threatened to be released at or from the Site.

NPS has coordinated with the Ohio Environmental Protection Agency (OEPA) and Ohio Department of Natural Resources during the EE/CA investigation for the Site, including soliciting State Applicable or Relevant and Appropriate Requirements (ARARs) related to the Site. NPS has also coordinated with the United States Environmental Protection Agency (USEPA), because of USEPA's interest in the Cuyahoga River as an Area of Concern.

III. Threats to Public Health or Public Welfare or the Environment

Section 104(a) of CERCLA authorizes the President to take any response action consistent with the NCP which the President deems necessary to protect the public health or public welfare or the environment from threats associated with the release or threatened release of hazardous substances into the environment. This response authority has been delegated to the Department of the Interior (DOI) pursuant to Executive Order 12580 and, with respect to any release on or from land under NPS jurisdiction, custody or control, further delegated to NPS by DOI Departmental Manual Part 207 Chapter 7.

Section 300.415(b)(2) of the NCP establishes eight factors relevant to determining the need for, and the appropriateness of, undertaking a removal action:

- (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- (ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
- (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;
- (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
- (vi) Threat of fire or explosion;
- (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and
- (viii) Other situations or factors that may pose threats to public health or welfare or the environment.

Of these eight factors, five support the determination to select and implement the recommended removal action at this Site, as described below:

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

Hazardous substances exceeding RGs have been found throughout the Site in surface and subsurface soils, exposed waste piles, settling ponds, and railroad track materials. Currently, fencing surrounds the majority of the Site to prevent exposure to park visitors, however, the fence does not prevent trespassers or animals from entering the Site and being exposed to hazardous substances. Accordingly, there is a significant concern of actual exposure to park visitors, park staff, animals and the food chain from hazardous substances.

- ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems

The Site is located within a unit of the National Park System and, as such, is within a sensitive environment. With respect to CUVA, in particular, the park provides habitat for several

designated or proposed threatened or endangered species including bald eagles, peregrine falcons, and several bat species. In addition, nine wetlands (emergent and forested) have been identified within the Site and the floodplain west of the Site has been tentatively identified as an area of archeological interest, particularly with respect to Native American historical use.

- iii. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release

A portion of the Site, known as the Dump site, is an approximately 2-acre waste disposal area northwest of the former mill building, bounded to the north by the main railroad spur and the southwest by the Cuyahoga River. Several drums, some damaged and others intact, have been observed at the Dump site, many or most of which contain hazardous substances or pollutants or contaminants that pose a threat of release. In addition, red and black slag waste containing metals has been observed throughout the Dump site.

- iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate

The EE/CA and other investigations performed at the Site confirm the presence of elevated levels of hazardous substances in Site soils, including, but not limited to, antimony, arsenic, barium, cadmium, chromium III and IV, copper, lead, zinc, PCBs, and PAHs. Given the location of the Site, adjacent to the Cuyahoga River and Brandywine Creek, the Site is subject to seasonal flooding that destabilizes the banks and causes surface and subsurface soils with high levels of hazardous substances to migrate off-Site.

- v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

During heavy precipitation events, often in winter and spring, the flows in the River and Creek regularly flood portions of the Site and erode the exposed banks. The areas that are most prone to flooding from high flows in the Cuyahoga River include the area southwest of the building foundation and the Dump site. The areas that are most prone to flooding from high flows in Brandywine Creek include the area along the northern Site boundary adjacent to the Central Waste Pile 1, in the aeration pond areas north of Pond P1 and around Pond P2 and P3, and the area north of the railroad tracks. As a result of the flooding caused by heavy precipitation events, hazardous substances are eroding from the impacted banks and migrating off-Site.

Based upon an evaluation of these factors, NPS has determined that undertaking a removal action at the Site is necessary to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of hazardous substances at or from the Site.

IV. Endangerment Determination

As described above, in the EE/CA Report and in the Administrative Record established for this Site, actual or threatened releases of hazardous substances at or from the Site may present an imminent and substantial endangerment to public health or public welfare or the environment if not addressed. NPS has determined that the removal action selected by this Action Memorandum is necessary to protect the public health, public welfare, and the environment from risks associated with the release or threatened release of hazardous substances at or from the Site.

V. Proposed Actions and Estimated Costs

A. EE/CA Report

1. Proposed Alternatives Evaluated

The EE/CA Report evaluated three removal action alternatives to address the release of hazardous substances at the Site. The three alternatives were: (1) no action; (2) partial excavation of contaminated soil, sediment, and waste and partial capping with long-term operation and maintenance (O&M) to maintain and protect the cap's integrity; and (3) excavation and removal of contamination exceeding RGs from approximately 12.5 acres and off-site disposal of all excavated material.

Alternative 3 (excavation and removal of contamination and offsite disposal) was the alternative recommended by the EE/CA Report. Of the three alternatives, Alternative 3 was determined to be the most protective of human health, the environment and park resources, to attain Site ARARs, to provide the highest level of effectiveness and permanence over the long term, and to be easily implementable.

Alternative 1 (no action) was rejected because it was not protective of human health or the environment and did not attain Site ARARs. Alternative 2 (partial excavation of contaminated soil, sediment, and waste, with partial capping, and O&M) was determined to be not fully protective of human health and the environment, to not attain all Site ARARs, and to be less effective and permanent over the long term than Alternative 3. Alternative 3 was the costliest of the three alternatives but the costs were not considered excessive in the context of the higher level of protection, attainment of ARARs, and long-term effectiveness achieved by Alternative 3.

2. Recommended Action Description

Alternative 3 provides overall protection of human health and the environment. Excavation and off-Site disposal of contaminated soil, sediment, and waste material and the concrete foundation from 26 contaminated soil and three sediment DUs and seven waste piles will provide long-term and permanent protection to human and ecological receptors at the Site, because contaminant

source removal eliminates contaminant exposure, transport and migration into and via the Cuyahoga River and Brandywine Creek.

In addition, excavation and off-site disposal of contaminated material will abate adverse impacts to park resources and values associated with contamination and prevent any such impacts in the future. Alternative 3 ensures there will be no hazardous substances remaining at the Site above levels that preclude recreational use; therefore, there will be no need for site-specific restrictions or long-term monitoring that would adversely impact the use of park resources for their intended purpose. Depending on the extent of restoration and revegetation, some short term access restriction are anticipated to prevent damage to the restored areas until the area has stabilized and attains NPS requirements. Excavated materials will be disposed at an appropriate off-site facility. Surface grading and stormwater controls will be constructed and maintained as needed to reduce erosion and facilitate revegetation in disturbed areas.

Alternative 3 comprises the following specific components.

- Excavation and off-site disposal of approximately 155,600 yd³ of contaminated soil and waste material from 26 soil DUs, three sediment DUs, and seven waste piles at the Site, and 188,700 ft² of concrete building foundation and other miscellaneous concrete covering a total of approximately 12.5 acres (EE/CA Appendix F). RG exceedances detected beneath the majority of the concrete foundation, data showing contaminant migration through the concrete foundation (under the Fourdrinier Machine, chlorinated solvents, and other black stained soil areas), and data gaps regarding the extent of sub-slab contamination necessitate removal of the concrete foundation. In each DU where contaminated soil or waste material is present, the DU will be excavated until all waste material exceeding RGs, including slag, is removed and undisturbed soil is encountered within the entire DU. Based on depths identified during the 2016 EE/CA field investigations, the depths of the excavation are anticipated to range between 4 to 12 feet bgs.
- Removal of remaining contaminated Site features, including the railroad infrastructure, Fourdrinier Machine, transite pipe, Ponds 1, 2 and 3 (including the hazardous substances in sediment in all three ponds and the pond surface water from Pond 1, the only pond with surface water), monitoring well abandonment, and the beater tanks.
- Confirmation ISM soil sampling will be conducted across the excavation base of each DU and waste pile to evaluate whether contamination remains at levels exceeding RGs. Confirmation sampling will be conducted in all removal areas following removal of all waste material including slag. The excavation of the underlying soil will be limited to approximately 6 to 12 inches or less prior to confirmation sampling. If confirmation

sampling indicates that any RG is exceeded in a DU or waste pile, then an additional 6 to 12 inches will be removed and the DU or waste pile will be sampled again. If confirmation sampling indicates that all COC concentrations are below the RGs, then excavation will be complete within the DU or waste pile and no further excavation will be conducted. The DUs and waste piles identified as clean will be marked and closed to prevent potential recontamination from activities on other adjacent DUs or waste piles. Once a DU or area has been identified as clean, no truck traffic or equipment will be allowed in the area until regrading with clean equipment and revegetation activities warrant access. Where necessary, the boundaries of these clean DUs will be protected from adjacent contaminated DUs using erosion control measures until the adjacent contaminated DUs is excavated. Additional details on ISM confirmation sampling are presented in Section 6.2.5 of the EE/CA.

- Following completion of all excavation and removal of contaminated materials and successful confirmation sampling, clean imported fill material meeting NPS clean fill specifications (NPS 2014) will be placed on the disturbed areas to various specified depths to re-create natural land contours, to provide storm water/erosion controls and to facilitate revegetation with native species.

3. *Contribution of the Recommended Action to the Final Cleanup*

The recommended removal action is expected to constitute the final response action needed to address contamination at the Site. The recommended removal action will remove all COCs exceeding RGs, will attain all Site ARARs identified in Section 4 of the EE/CA Report, and will allow for unrestricted access to and use of the Site following completion of the removal action.

4. *Response to Significant Public Comments on the EE/CA Report*

Comments were received during the EE/CA public comment period from Paddock Enterprises, LLC ("Paddock"), as successor by merger to Owens-Illinois, Inc., an owner at the time of disposal of hazardous substances at the Site and a potentially responsible party liable for costs incurred by NPS in responding to the release of these hazardous substances. Paddock provided legal comments through its attorney and technical comments through its consultant. NPS's responses to these comments can be found in the EE/CA Report's Response to Comments in the Administrative Record.

B. Estimated Costs

The total capital cost of Alternative 3 is estimated to be \$45,006,900 million (current dollar). The direct capital cost is estimated at \$37,825,400 million, which includes a 25% contingency factor. The costs summarized in Appendix F include: Site preparation; excavation, transportation, and off-site disposal of contaminated materials and removal of remaining man-made features; hauling NPS approved fill and grading materials to the Site, and placement of these materials; monitoring activities during construction; constructing stormwater controls; and performing revegetation.

The indirect capital costs associated with Alternative 3 are estimated at approximately \$7,181,500. These costs include labor and design services associated with completion of the CERCLA Removal Action Work Plan detailing removal action items such as methods, costs, management plans, and sampling methods, and the design and oversight/management of removal action implementation activities.

Short-term O&M costs for Alternative 3 associated with annual inspections of the progress in achieving revegetation standards are estimated at approximately \$2,500, which includes annual inspection of the Site revegetation progress and sediment and surface water monitoring. It is estimated that the revegetation will become established and stabilized within five years of initial revegetation activities.

In accordance with USEPA's "*A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, EPA/540/R-00/002. July 2000," the actual cost could be from 30% below to 50% above the estimated cost (USEPA 2000). This corresponds to an estimated cost range of \$31.5 million to \$67.5 million.

VI. **Expected Change in the Situation Should Action be Delayed or Not Taken**

Because of the location of hazardous substances immediately adjacent to the Cuyahoga River and Brandywine Creek, and the seasonal flooding and ongoing annual erosion of contaminated soils and waste materials, if the recommended removal action is delayed or not taken existing and potential risks to human health and ecological receptors and adverse impacts to park resources and values will remain unabated. The stabilization wall along the Cuyahoga River adjacent to the Dump site is effective only in abating the release of hazardous substances from the Dump site and only over the short-term. No controls are currently in place to prevent releases into Brandywine Creek, and seasonal flooding will continue to cause the release and threat of release of hazardous substances into the Creek until the hazardous substances are removed from the Site.

In addition, the potential for exposure of visitors and park staff to hazardous substances will remain unabated and recreational and other uses of the Site will remain restricted.

VII. Outstanding Policy Issues

The Cuyahoga River is one of 43 contaminated sites designated as an "Area of Concern" by the USEPA under the 1987 Great Lakes Water Quality Agreement. In that regard, NPS is coordinating with USEPA on the cleanup of the Jaite Paper Mill Site and the contribution that cleanup will make to restoring and protecting the quality of the Cuyahoga River.

VIII. Enforcement

NPS conducted and completed an investigation to identify parties that may be liable under CERCLA for response costs incurred by NPS. The results of that investigation are privileged under the attorney work product privilege and are maintained as "enforcement sensitive" in the privileged section of the Administrative Record file.

IX. Recommendation

This Action Memorandum identifies and recommends a CERCLA NTCRA that will provide effective and long term protection of public health, public welfare, and the environment from hazardous substances released at and from the Jaite Paper Mill Site. It has been developed in accordance with CERCLA and is not inconsistent with the NCP. The recommended removal action is based on the Administrative Record for the Site and presented more fully in the EE/CA Report prepared for this Site. Conditions at the Site meet the criteria, codified at 40 CFR 300.415(b) of the NCP, for a CERCLA lead agency to take "any appropriate removal action necessary to abate, prevent, minimize, or eliminate the release or threat of release." NPS has, therefore, made the determination that a NTCRA is necessary at the Site to prevent human and ecological exposure to the release of hazardous substances, to eliminate the migration of hazardous substances from the Site into the Cuyahoga River and Brandywine Creek, and to abate and prevent unacceptable impacts to park resources and values associated with hazardous substances at the Site.

X. Approval

Based upon the information and analysis presented in this Action Memorandum and the Administrative Record file established for this Site, my signature below indicates my concurrence with the recommendation to select and implement the recommended removal action.

**SHAWN
MULLIGAN**

Digitally signed by
SHAWN MULLIGAN
Date: 2021.09.29
13:53:22 -06'00'

Shawn P. Mulligan, Chief
Environmental Compliance and Cleanup Division
National Park Service

Date